OBSERVATIONS & RECOMMENDATIONS

After reviewing data collected from **MARSH POND, CHICHESTER,** the program coordinators have made the following observations and recommendations:

Thank you for your continued hard work sampling the pond this season! Your monitoring group sampled **three** times this season! As you know, multiple sampling events each season enable DES to more accurately detect water quality changes. Keep up the good work!

We encourage your monitoring group to formally participate in the DES Weed Watchers program, a volunteer program dedicated to monitoring lakes and ponds for the presence of exotic aquatic plants. This program only involves a small amount of time during the summer months. Volunteers survey their waterbody once a month from **June** through **September**. To survey, volunteers slowly boat, or even snorkel, around the perimeter of the waterbody and any islands it may contain. Using the materials provided in the Weed Watchers Kit, volunteers look for any species that are of suspicion. After a trip or two around the waterbody, volunteers will have a good knowledge of its plant community and will immediately notice even the most subtle changes. If a suspicious plant is found, the volunteers will send a specimen to DES for identification. If the plant specimen is an exotic, a biologist will visit the site to determine the extent of the problem and to formulate a management plant to control the nuisance infestation. Remember that early detection is the key to controlling the spread of exotic plants.

If you would like to help protect your lake or pond from exotic plant infestations, contact Amy Smagula, Exotic Species Program Coordinator, at 271-2248 or visit the Weed Watchers web page at www.des.state.nh.us/ wmb/exoticspecies/survey.htm.

We understand that the Chichester Selectmen intend to remove the outlet dam on the pond during 2006 primarily due to safety issues. After the dam is pulled, the remaining water level in the pond is uncertain. If the commission is interested in continuing to monitor the water quality of this system, please contact the VLAP Coordinator.

FIGURE INTERPRETATION

- **Figure 1 and Table 1:** Figure 1 (Appendix A) shows the historical and current year chlorophyll-a concentration in the water column. Table 1 (Appendix B) lists the maximum, minimum, and mean concentration for each sampling season that the pond has been monitored through VLAP.

  Chlorophyll-a, a pigment found in plants, is an indicator of the algal abundance. Because algae are usually microscopic plants that contain chlorophyll-a, and are naturally found in lake ecosystems, the chlorophyll-a concentration measured in the water gives an estimation of the algal concentration or lake productivity. **The median summer chlorophyll-a concentration for New Hampshire's lakes and ponds is 4.58 mg/m^3.**

  The current year data (the top graph) show that the chlorophyll-a concentration ***increased steadily*** from **June** to **August**. The data suggest that an algal bloom had occurred in the pond on the **July** and **August** sampling events.

  The historical data (the bottom graph) show that the 2005 chlorophyll-a mean is ***greater than*** the state median and the similar lake median (refer to Appendix F for more information about the similar lake median).

  Overall, visual inspection of the historical data trend line (the bottom graph) shows a ***slightly increasing (meaning slightly worsening)*** in-lake chlorophyll-a trend since monitoring began in **2004**. However, please keep in mind that this trend is based on only **two** years of data. After 10 consecutive years of sample collection, we will be able to conduct a statistical analysis of the historical data to objectively determine if there has been a significant change in the annual mean chlorophyll-a concentration since monitoring began.

  While algae are naturally present in all ponds, an excessive or increasing amount of any type is not welcomed. In freshwater ponds, phosphorus is the nutrient that algae depend upon for growth. Algal concentrations may increase as nonpoint sources of phosphorus from the watershed increase, or as in-lake phosphorus sources increase (such as sediment phosphorus releases, known as internal loading). Therefore, it is extremely important for volunteer monitors to continually educate all watershed residents about activities within the watershed that affect phosphorus loading and pond quality.

- **Figure 2 and Table 3:** Figure 2 (Appendix A) shows the historical and current year data for pond transparency. Table 3 (Appendix B) lists the maximum, minimum and mean transparency data for each sampling season that the pond has been monitored through VLAP.

  Volunteer monitors use the Secchi-disk, a 20 cm disk with alternating black and white quadrants, to measure water clarity (how far a person can see into the water). Transparency, a measure of water clarity, can be affected by the amount of algae and sediment from erosion, as well as the natural colors of the water. **The median summer transparency for New Hampshire's lakes and ponds is 3.2 meters.**

  The current year data (the top graph) show that the in-lake transparency ***remained stable*** from **June** to **July**, and then ***decreased*** from **July** to **August**. It is important to point out that the Secchi Disk was visible on the pond bottom on the **June** sampling event but was not visible on the pond bottom on the **July** or **August** sampling events.

  It is important to note that as the chlorophyll concentration ***increased*** from the **July** to **August** sampling event, the transparency ***decreased***. We typically expect this ***inverse*** relationship in lakes. As the amount of algal cells in the water ***increases,*** the depth to which one can see into the water column typically ***decreases.***

  The historical data (the bottom graph) show that the 2005 mean transparency is ***slightly less than*** the **2004** mean annual transparency.

  As previously discussed, after 10 consecutive years of sample collection, we will be able to conduct a statistical analysis of the historical data to objectively determine if there has been a significant change in the annual mean transparency since monitoring began.

  Typically, high intensity rainfall causes sediment erosion to flow into ponds and streams, thus increasing turbidity and decreasing clarity. Efforts should continually be made to stabilize stream banks, pond shorelines, disturbed soils within the watershed, and especially dirt roads located immediately adjacent to the edge of tributaries and the pond. Guides to Best Management Practices designed to reduce, and possibly even eliminate, nonpoint source pollutants, such as sediment loading, are available from DES upon request.

- **Figure 3 and Table 8:** The graphs in Figure 3 (Appendix A) show the amount of epilimnetic (upper layer) phosphorus and hypolimnetic (lower layer) phosphorus; the inset graphs show current year data. Table 8 (Appendix B) lists the annual maximum, minimum, and median concentration for each deep spot layer and each tributary since the pond has joined VLAP.

  Phosphorus is the limiting nutrient for plant and algae growth in New Hampshire's freshwater lakes and ponds. Excessive phosphorus in a pond can lead to increased plant and algal growth over time. **The median summer total phosphorus concentration in the epilimnion (upper layer) of New Hampshire's lakes and ponds is 12 ug/L. The median summer phosphorus concentration in the hypolimnion (lower layer) is 14 ug/L.**

  The current year data for the epilimnion (the top inset graph) show that the phosphorus concentration ***increased slightly*** from **June** to **July**, and then ***remained stable*** from **July** to **August**.

  The total phosphorus concentration in the epilimnion (upper layer) sample was ***elevated*** on each sampling event this season **(ranging from 31 to 32 ug/L).** It is likely that the phosphorus concentration in the pond is affected by the extensive wetland system that surrounds and drains into the pond. Due to the unusually high water levels and amount of rainfall that occurred during the spring and summer of 2005, it is possible that phosphorus-enriched water was being released by the wetland system (due to terrestrial plant decomposition) which caused elevated phosphorus concentrations and stimulated algal growth in the pond. In addition, it is important to point out that each sampling event this season was conducted after a period of at least 0.3 inches of rainfall within the previous 72 hours. In addition, the June and July sampling events were conducted during a rain event.

  The historical data show that the 2005 mean epilimnetic phosphorus concentration is ***greater than*** the state median and the similar lake median.

  Overall, visual inspection of the historical data trend line for the epilimnion shows an ***increasing (meaning worsening)*** phosphorus trend since monitoring began in 2004. As discussed previously, please keep in mind that this trend is only based on two year of data. After 10 consecutive years of sample collection, we will be able to conduct a statistical analysis of the historical data to objectively determine if there has been a significant change in the annual mean phosphorus concentration since monitoring began.

One of the most important approaches to reducing phosphorus loading to a waterbody is to continually educate watershed residents about its sources and how excessive amounts can adversely impact the ecology and the recreational, economical, and ecological value of ponds. Phosphorus sources within a pond's watershed typically include septic systems, animal waste, lawn fertilizer, road and construction erosion, and natural wetlands.

TABLE INTERPRETATION

- **Table 2: Phytoplankton**

  Table 2 (Appendix B) lists the current and historical phytoplankton species observed in the pond. Specifically, this table lists the three most dominant phytoplankton species observed in the sample and their relative abundance in the sample.

  The dominant phytoplankton species observed in the **June** sample were ***Mallomonas*** **(golden-brown),** ***Dinobryon*** **(golden-brown),** and ***Ceratium*** **(dinoflagellate).**

  Phytoplankton populations undergo a natural succession during the growing season (Please refer to the "Biological Monitoring Parameters" section of this report for a more detailed explanation regarding seasonal plankton succession). Diatoms and golden-brown algae are typical in New Hampshire's less productive lakes and ponds.

- **Table 2: Cyanobacteria**

  A **small amount** of the cyanobacterium ***Microcystis*** was observed in the **June** plankton sample. ***This species, if present in large amounts, can be toxic to livestock, wildlife, pets, and humans.*** (Please refer to the "Biological Monitoring Parameters" section of this report for a more detailed explanation regarding cyanobacteria).

  Cyanobacteria can reach nuisance levels when phosphorus loading from the watershed to surface waters is increased (this is often caused by rain events) and favorable environmental conditions occur (such as a period of sunny, warm weather).

  The presence of cyanobacteria serves as a reminder of the pond's delicate balance. Watershed residents should continue to act proactively to reduce nutrient loading to the pond by eliminating fertilizer use on lawns, keeping the pond shoreline natural, re-vegetating cleared areas within the watershed, and properly maintaining septic systems and roads.

In addition, residents should also observe the pond in September and October during the time of fall turnover (lake mixing) to document any algal blooms that may occur. Cyanobacteria have the ability to regulate their depth in the water column by producing or releasing gas from vesicles. However, occasionally lake mixing can affect their buoyancy and cause them to rise to the surface and bloom. Wind and currents tend to "pile" cyanobacteria into scums that accumulate in one section of the pond. If a fall bloom occurs, please collect a sample (any clean jar or bottle will be suitable) and contact the VLAP Coordinator.

- **Table 4: pH**
  Table 4 (Appendix B) presents the in-lake and tributary current year and historical pH data.

  pH is measured on a logarithmic scale of 0 (acidic) to 14 (basic). pH is important to the survival and reproduction of fish and other aquatic life. A pH below 6.0 limits the growth and reproduction of fish. A pH between 6.0 and 7.0 is ideal for fish. The median pH value for the epilimnion (upper layer) in New Hampshire's lakes and ponds is **6.6**, which indicates that the surface waters in the state are slightly acidic. For a more detailed explanation regarding pH, please refer to the "Chemical Monitoring Parameters" section of this report.

  The mean epilimnetic pH at the deep spot this season was **6.83,** which means that the water is ***slightly acidic.***

  Due to the presence of granite bedrock in the state and acid deposition (from snowmelt, rainfall, and atmospheric particulates) in New Hampshire, there is not much that can be done to effectively increase pond pH.

- **Table 5: Acid Neutralizing Capacity**
  Table 5 (Appendix B) presents the current year and historical epilimnetic ANC for each year the pond has been monitored through VLAP.

  Buffering capacity (ANC) describes the ability of a solution to resist changes in pH by neutralizing the acidic input. The median ANC value for New Hampshire's lakes and ponds is **4.9 mg/L**, which indicates that many lakes and ponds in the state are at least "moderately vulnerable" to acidic inputs. For a more detailed explanation, please refer to the "Chemical Monitoring Parameters" section of this report.

The mean Acid Neutralizing Capacity (ANC) of the epilimnion (the upper layer) was **13.7 mg/L** this season, which is ***greater than*** the state median. In addition, this indicates that the pond ***has a low vulnerability*** acidic inputs (such as acid precipitation). It is important to point out that the 2005 mean annual ANC is ***much greater than*** the 2004 mean ANC. The 2005 ANC results were recalculated prior to the writing of this report and the results were determined to be valid. It will be interesting to learn what the 2006 ANC results are.

- **Table 6: Conductivity**

Table 6 (Appendix B) presents the current and historical conductivity values for tributaries and in-lake data. Conductivity is the numerical expression of the ability of water to carry an electric current (which is determined by the number of negatively charged ions from metals, salts, and minerals in the water column). The median conductivity value for New Hampshire's lakes and ponds is **40.0 uMhos/cm**. For a more detailed explanation, please refer to the "Chemical Monitoring Parameters" section of this report.

The mean annual conductivity in the epilimnion at the deep spot this season was **209.87 uMhos/cm**, which is ***much greater than*** the state median.

The conductivity at the **deep spot, South Inlet,** and **Outlet** was ***greater than*** the conductivity that was measured at each respective location in 2004. In addition, the conductivity at all sampling locations is ***greater than*** we would normally expect in undisturbed surface waters in New Hampshire. Furthermore, the conductivity in the **South Inlet** was ***particularly elevated*** on the **July** and **August** sampling events this season **(1185 and 1425 uMhos/cm, respectively).** Typically, sources of increased conductivity are due to human activity. These activities include failed or marginally functioning septic systems, agricultural runoff, and road runoff (which contains road salt during the spring snow melt). New development in the watershed can alter runoff patterns and expose new soil and bedrock areas, which could contribute to increasing conductivity. In addition, natural sources, such as iron and manganese deposits in bedrock, can influence conductivity.

We recommend that your monitoring group conduct stream surveys, bracket sampling, and storm event sampling along the **Inlet** and **South Inlet** so that we can better determine the specific location(s) and magnitude of conductivity sources to the pond.

For a detailed explanation on how to conduct rain event sampling, bracket sampling, and stream surveys, please refer to the 2002 VLAP

Annual Report "Special Topic Article" or contact the VLAP Coordinator.

We also recommend that your monitoring group conduct a shoreline conductivity survey of the lake and the tributaries to help pinpoint the sources of ***elevated*** conductivity.

To learn how to conduct a shoreline or tributary conductivity survey, please refer to the 2004 "Special Topic Article" or contact the VLAP Coordinator.

It is possible that de-icing materials applied to nearby roadways during the winter months may be influencing the conductivity in the pond. In New Hampshire, the most commonly used de-icing material is salt (sodium chloride). Please refer to the discussion of Table 13 for more information about chloride sampling results.

- **Table 8: Total Phosphorus**

  Table 8 (Appendix B) presents the current year and historical total phosphorus data for in-lake and tributary stations. Phosphorus is the nutrient that limits the algae's ability to grow and reproduce. Please refer to the "Chemical Monitoring Parameters" section of this report for a more detailed explanation.

  The total phosphorus concentration in the **Inlet** was ***highly elevated*** on the **June** and **July** sampling event **(242 and 86 ug/L, respectively).** The turbidity in these samples was also ***highly elevated*** **(19.5 and 11.4 NTUs, respectively).** The turbidity of the August sample was also ***highly elevated*** **(18.3 NTUs)** which suggests that the phosphorus in this sample was also ***elevated.*** (Please note that due to a limited sampling budget, the inlets were not sampled for phosphorus on the **August** sampling event.)

  The total phosphorus concentration in the **South Inlet** was ***highly elevated*** on the **June** sampling event **(264 ug/L).** The turbidity in this sample was also ***highly elevated*** **(112 NTUs).**

  As discussed previously, it is important to point out that each sampling event this season was conducted after a period of at least 0.3 inches of rainfall within the previous 72 hours. In addition, the June and July sampling events were conducted during a rain event.

  When the turbidity level and the phosphorus concentration in a sample are elevated, it suggests that soil erosion is occurring in that area of the watershed.

Again, we recommend that your monitoring group conduct stream surveys, bracket sampling, and storm event sampling along the **Inlet** and **South Inlet** so that we can better determine the specific location(s) and magnitude of phosphorus sources to the pond.

For a detailed explanation on how to conduct rain event sampling, bracket sampling, and stream surveys, please refer to the 2002 VLAP Annual Report "Special Topic Article" or contact the VLAP Coordinator.

- **Table 9 and Table 10: Dissolved Oxygen and Temperature Data**

  Table 9 (Appendix B) shows the dissolved oxygen/temperature profile(s) for the 2005 sampling season. Table 10 (Appendix B) shows the historical and current year dissolved oxygen concentration in the hypolimnion (lower layer). The presence of dissolved oxygen is vital to fish and amphibians in the water column and also to bottom-dwelling organisms. Please refer to the "Chemical Monitoring Parameters" section of this report for a more detailed explanation.

  The dissolved oxygen concentration was ***high*** at all deep spot depths sampled at the pond on the **June** sampling event. Typically, shallow lakes and ponds that are not deep enough to stratify into more than one or two thermal layers will have relatively high amounts of oxygen at all depths. This is due to continual lake mixing and diffusion of oxygen into the bottom waters induced by wind and wave action.

- **Table 11: Turbidity**

  Table 11 (Appendix B) lists the current year and historical data for in-lake and tributary turbidity. Turbidity in the water is caused by suspended matter, such as clay, silt, and algae. Water clarity is strongly influenced by turbidity. Please refer to the "Other Monitoring Parameters" section of this report for a more detailed explanation.

  As discussed previously, the turbidity was highly elevated in the **Inlet** on each sampling event this season **(ranging from 11.4 to 19.5 NTUs)** and in the **South Inlet** on the **June** sampling event **(112 NTUs).** In addition, the turbidity was elevated in the **Outlet at Cross Road** sample on the **June** sampling event **(17.2 NTUs).**

  The sampling data suggest that soil erosion is occurring in the **Inlet** and **South Inlet** subwatersheds. We recommend that your monitoring group conduct stream surveys, bracket sampling, and storm event sampling along the **Inlet** and **South Inlet** so that we can better determine the specific location(s) and magnitude of turbidity sources to the pond.

For a detailed explanation on how to conduct rain event sampling, bracket sampling, and stream surveys, please refer to the 2002 VLAP Annual Report "Special Topic Article" or contact the VLAP Coordinator.

- **Table 12: Bacteria (*E.coli*)**
  Table 12 lists only the historical data for bacteria (*E.coli*) testing. (Please note that Table 12 now lists the maximum and minimum results for all past sampling seasons.) *E. coli* is a normal bacterium found in the large intestine of humans and other warm-blooded animals. *E.coli* is used as an indicator organism because it is easily cultured and its presence in the water, in defined amounts, indicates that sewage **MAY** be present. If sewage is present in the water, potentially harmful disease-causing organisms **MAY** also be present.

  Bacteria sampling was not conducted this year. If residents are concerned about sources of bacteria such as failing septic systems, animal waste, or waterfowl waste, it is best to conduct *E. coli* testing when the water table is high, when beach use is heavy, or immediately after rain events.

- **Table 13: Chloride**
  The chloride ion (Cl^-) is found naturally in some surfacewaters and groundwaters and in high concentrations in seawater. Research has shown that ***elevated*** chloride levels can be toxic to freshwater aquatic life. In order to protect freshwater aquatic life in New Hampshire, the state has adopted **acute and chronic** chloride criteria of **860 and 230 mg/L** respectively. The chloride content in New Hampshire lakes is naturally low, generally less than 2 mg/L in surface waters located in remote areas away from habitation. Higher values are generally associated with salted highways and, to a lesser extent, with septic inputs. Please refer to the "Chemical Monitoring Parameters" section of this report for a more detailed explanation.

  The **epilimnion** was sampled for chloride on the **June** and **July** sampling events and the results were ***elevated*** on both sampling events **(48 and 45 mg/L, respectively).**

  The **Inlet** was sampled for chloride on the **June** and **July** sampling events and the results were ***slightly elevated*** on both sampling events **(17 and 16 mg/L, respectively).**

  The **South Inlet** was sampled for chloride on the **June** and **July** sampling events and the result was ***slightly elevated*** on the **June** sampling event **(20 mg/L)** and was ***highly elevated*** on the **July** sampling event **(300 mg/L).**

The **Outlet** was sampled for chloride on the **July** sampling event, and the result was also elevated **(46 mg/L).**

Overall, the **2005** chloride results ranged from **17 to 300 mg/L**. While these results are ***less than*** the state acute exposure criteria for chloride, the results are ***much greater than*** we would normally expect to measure in undisturbed surface waters in New Hampshire. In addition, it is important to point out that the **July** chloride result of **300 mg/L** measured in the **South Inlet** exceeded the state chronic exposure standard of 230 mg/L.

The sampling data suggest that deicing materials containing chloride that are applied to roadways in the watershed are contributing to the elevated conductivity and chloride levels in the pond.

It is important to point out that while the chloride concentration in the **South Inlet** sample collected in **July** ***exceeded*** the state chronic exposure standard, this sampling was conducted during the summer when deicing agents are not applied to roadways. We recommend that the commission sample the **South Inlet** for conductivity and chloride during the winter when deicing materials are being actively applied to the roadways. If winter sampling shows additional violations of state chloride standards, it is possible that road agents will be more inclined to work cooperatively with the commission and DES to minimize the potential for chloride and conductivity loading to surface waters.

While DES is currently working on a statewide policy to effectively guide lake associations, conservation commissions, and road agents on how to minimize the effects of road salt on surface water quality throughout the state, we recommend that the Conservation Commission begin to educate the appropriate road agents, local business owners, as well as residents in the watershed about the chloride and conductivity issues in the Marsh Pond watershed. Watershed residents and local businesses should be encouraged to implement a "low salt diet" for their property. For guidance, please read the 2005 DES Greenworks Article "Salt: An Emerging Issue for Water Quality" (January 2005) which can be accessed at www.des.nh.gov/gw0105.htm or from the VLAP Coordinator.

- **Table 14: Current Year Biological and Chemical Raw Data**
  This table lists the most current sampling season results. Since the maximum, minimum, and annual mean values for each parameter are not shown on this table, this table displays the current year "raw" (meaning unprocessed) data. The results are sorted by station, depth zone (epilimnion, metalimnion, and hypolimnion) and parameter.

- **Table 15: Station Table**
  As of the Spring of 2004, all historical and current year VLAP data are included in the DES Environmental Monitoring Database (EMD). To facilitate the transfer of VLAP data into the EMD, a new station identification system had to be developed. While volunteer monitoring groups can still use the sampling station names that they have used in the past (and are most familiar with), an EMD station name also exists for each VLAP sampling location. For each station sampled at your pond, Table 15 identifies what EMD station name corresponds to the station names you have used in the past and will continue to use in the future.

DATA QUALITY ASSURANCE AND CONTROL

Annual Assessment Audit:

During the annual visit to your pond, the biologist conducted a "Sampling Procedures Assessment Audit" for your monitoring group. Specifically, the biologist observed the performance of your monitoring group while sampling and filled out an assessment audit sheet to document the ability of the volunteer monitors to follow the proper field sampling procedures (as outlined in the VLAP Monitor's Field Manual). This assessment is used to identify any aspects of sample collection in which volunteer monitors fail to follow proper procedures, and also provides an opportunity for the biologist to retrain the volunteer monitors as necessary. This will ultimately ensure that the samples that the volunteer monitors collect are truly representative of actual lake and tributary conditions.

Overall, your monitoring group did an ***excellent*** job collecting samples on the annual biologist visit this season! Specifically, the members of your monitoring group followed the proper field sampling procedures and there was no need for the biologist to provide additional training. Keep up the good work!

Sample Receipt Checklist:

Each time your monitoring group dropped off samples at the laboratory this summer, the laboratory staff completed a sample receipt checklist to assess and document if the volunteer monitors followed proper sampling techniques when collecting the samples. The purpose of the sample receipt checklist is to minimize, and hopefully eliminate, future re-occurrences of improper sampling techniques.

Overall, the sample receipt checklist showed that your monitoring group did an ***excellent*** job when collecting samples and submitting them to the laboratory this season! Specifically, the members of your monitoring group followed the proper field sampling procedures and there was no need for the laboratory staff to contact your group with questions, and no samples were rejected for analysis.

USEFUL RESOURCES

Acid Deposition Impacting New Hampshire's Ecosystems, NHDES Fact Sheet ARD-32, (603) 271-2975 or www.des.state.nh.us/factsheets/ard/ard-32.htm.

Best Management Practices to Control Nonpoint Source Pollution: A Guide for Citizens and Town Officials, NHDES Booklet WD-03-42, (603) 271-2975.

Best Management Practices for Well Drilling Operations, NHDES Fact Sheet WD-WSEB-21-4, (603) 271-2975 or www.des.nh.gov/factsheets/ws/ws-21-4.htm.

Biodegradable Soaps and Water Quality, NHDES Fact Sheet BB-54, (603) 271-2975 or www.des.state.nh.us/factsheets/bb/bb-54.htm.

Canada Geese Facts and Management Options, NHDES Fact Sheet BB-53, (603) 271-2975 or www.des.state.nh.us/factsheets/bb/bb-53.htm.

Cyanobacteria in New Hampshire Waters Potential Dangers of Blue-Green Algae Blooms, NHDES Fact Sheet WMB-10, (603) 271-2975 or www.des.state.nh.us/factsheets/wmb/wmb-10.htm.

Erosion Control for Construction in the Protected Shoreland Buffer Zone, NHDES Fact Sheet WD-SP-1, (603) 271-2975 or www.des.state.nh.us/factsheets/sp/sp-1.htm.

Freshwater Jellyfish In New Hampshire, NHDES Fact Sheet WD-BB-5, (603) 271-2975 or www.des.state.nh.us/factsheets/bb/bb-51/htm.

Impacts of Development Upon Stormwater Runoff, NHDES Fact Sheet WD-WQE-7, (603) 271-2975 or www.des.state.nh.us/factsheets/wqe/wqe-7.htm.

IPM: An Alternative to Pesticides, NHDES Fact Sheet WD-SP-3, (603) 271-2975 or www.des.state.nh.us/factsheets/sp/sp-3.htm.

Iron Bacteria in Surface Water, NHDES Fact Sheet WD-BB-18, (603) 271-2975 or www.des.state.nh.us/factsheets/bb/bb-18.htm.

Lake Protection Tips: Some Do's and Don'ts for Maintaining Healthy Lakes, NHDES Fact Sheet WD-BB-9, (603) 271-2975 or www.des.state.nh.us/factsheets/bb/bb-9.htm.

Low Impact Development Hydrologic Analysis. Manual prepared by Prince George's County, Maryland, Department of Environmental Resources. July 1999. To access this document, visit www.epa.gov/owow/nps/lid_hydr.pdf or call the EPA Water Resource Center at (202) 566-1736.

Low Impact Development: Taking Steps to Protect New Hampshire's Surface Waters NHDES Fact Sheet WD-WMB-16, (603) 271-2975 or www.des.state.nh.us/factsheets/wmb/wmb-17.htm.

Proper Lawn Care In the Protected Shoreland, The Comprehensive Shoreland Protection Act, NHDES Fact Sheet WD-SP-2, (603) 271-2975 or www.des.state.nh.us/factsheets/sp/sp-2.htm.

Road Salt and Water Quality, NHDES Fact Sheet WD-WMB-4, (603) 271-2975 or www.des.state.nh.us/factsheets/wmb/wmb-4.htm.

Sand Dumping - Beach Construction, NHDES Fact Sheet WD-BB-15, (603) 271-2975 or www.des.state.nh.us/factsheets/bb/bb-15.htm.

Shorelands Under the Jurisdiction of the Comprehensive Shoreland Protection Act, NHDES Fact Sheet SP-4, (603) 271-2975 or www.des.state.nh.us/factsheets/sp/sp-4.htm.

Soil Erosion and Sediment Control on Construction Sites, NHDES Fact Sheet WQE-6, (603) 271-2975 or www.des.state.nh.us/factsheets/wqe/wqe-6.htm.

Swimmers Itch, NHDES Fact Sheet WD-BB-2, (603) 271-2975 or www.des.state.nh.us/factsheets/bb/bb-2.htm.

Through the Looking Glass: A Field Guide to Aquatic Plants, North American Lake Management Society, 1988, (608) 233-2836 or www.nalms.org.

Weed Watchers: An Association to Halt the Spread of Exotic Aquatic Plants, NHDES Fact Sheet WD-BB-4, (603) 271-2975 or www.des.state.nh.us/factsheets/bb/bb-4.htm.

Watershed Districts and Ordinances, NHDES Fact Sheet WD-WMB-16, (603) 271-2975 or www.des.state.nh.us/factsheets/wmb/wmb-16.htm.